



# REGULATED DC POWER SUPPLY

# PR18-1.2A PR18-3A

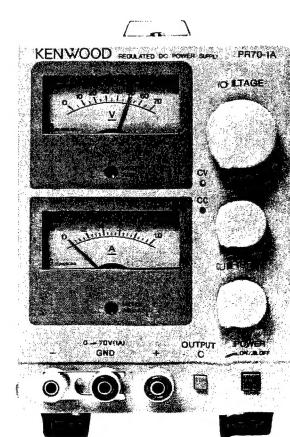
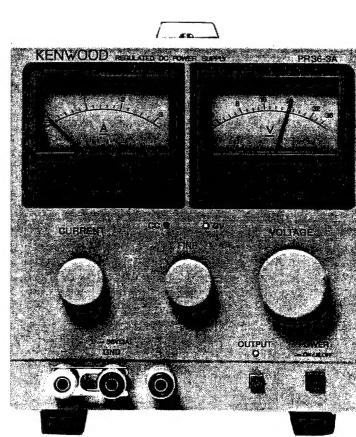
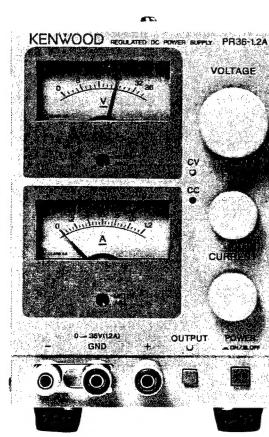
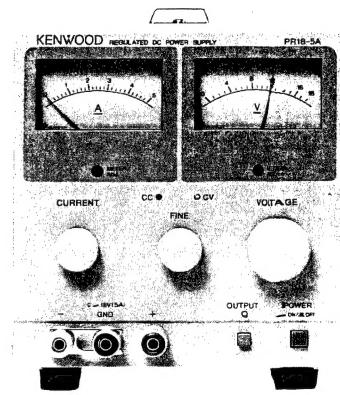
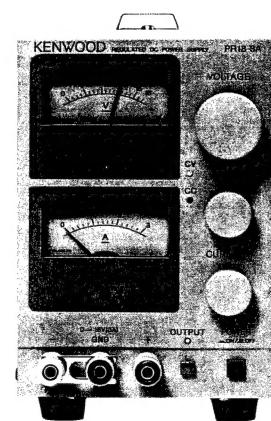
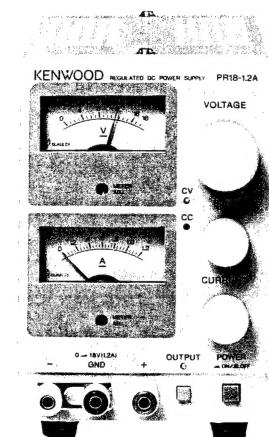
# PR18-5A PR36-1.2A

# PR36-3A PR70-1A

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## SERVICE MANUAL

KENWOOD CORPORATION



# ADJUSTMENT

To obtain the best performance, periodically calibrate the unit. Sometimes, only one mode need be calibrated, while at other times, all modes should be calibrated. When one mode is calibrated, it must be noted that the other modes may be affected. When calibrating all modes, perform the calibration in the specified sequence.

The following calibration required an accurate measuring instrument and an insulated adjusting flat blade screwdriver. If they are not available, contact your dealer. For optimum adjustment, turn the power on and warm up the scope sufficiently (more than 30 minutes) before starting.

Before calibrating the scope, check the power supply voltage.

## TEST EQUIPMENT REQUIRED

The following instrument or their equivalent should be used for making adjustment.

Multimeter 45 FLUKE

## PREPARATION FOR ADJUSTMENT

### Control Settings

The control settings listed below must be used for each adjustment procedure.

Exceptions to these settings will be noted as they occur. After completing a adjustment, return the controls to the following settings.

NAME OF KNOBS	POSITION
CURRENT FINE VOLTAGE	Fully Clockwise

Item	Adjustment VR	Procedure	Refer to Table 1.
Voltage	VR1 (V. ADJ)	Turn VR1 clockwise to adjust the to the output voltage setting, then turn the FINE control to adjust to the rated voltage. (Before this adjustment, set VR1 to VR3 to the fully counterclockwise positions.)	
Current	VR2 (A. ADJ)	Connect a load and turn VR2 to adjust to the output current setting.	
A meter	VR3 (AM. CAL)	Set the load for the rated current, and adjust the swing of the ammeter of the main unit with VR3.	

Specifications	Output voltage setting	Output current setting	Model
PR18-1.2A		1.28	
PR18-3A	18.5	3.19	
PR18-5A		5.3	
PR36-1.2A		1.28	
PR36-3A	37	3.19	
PR70-1A	72	1.06	

Table 1

# PARTS LIST

## PR18-1.2A

Y86-1850-00

REF. NO	PARTS NO	NAME & DESCRIPTION
A01-1236-08	COVER	
A63-0112-08	FRONT PANEL	
B31-0755-08	METER; VOLT	
B31-0756-08	METER; CURRENT	
B40-2737-24	SERIAL NO. PLATE	
B42-3731-08	MASTER/SLAVE LABEL	
B42-3734-08	RATING: AC100V 50/60HZ 45W	
B42-3735-08	FUSE RATING LABEL	
B42-3749-08	RATING: AC120V 50/60HZ 45W	
B42-3750-08	RATING: AC220V 50/60HZ 45W	
B42-3751-08	RATING: AC240V 50/60HZ 45W	
B42-3752-08	RATING: AC120V 60HZ 45W	
B63-0173-00	INSTRUCTION MANUAL; JAPANESE	
B63-0174-00	INSTRUCTION MANUAL; ENGLISH	
E21-0670-03	TERMINAL, RED	
E21-0671-03	TERMINAL, BLACK	
E21-0672-03	TERMINAL, WHITE	
E29-0506-04	SHORTING BAR	
E29-0542-08	LUG; M3	
E30-0027-35	UL/CSA POWER CORD	
E30-0545-05	JIS POWER CORD	
E30-0571-15	SAA POWER CORD	
E30-1815-05	CEE POWER CORD	
E30-1867-05	BS POWER CORD	
F01-0884-08	HEAT SINK	
F05-8013-08	FUSE(5X20MM) 0.8A/250V	
F05-8015-08	FUSE(6X32MM) 0.8A/250V	
F29-0515-08	INSULATOR; FOR Q6	
F51-0007-08	FUSE 1.5A/125V	
H10-2853-08	FOAMED STYRENE PAD (FRONT)	
H10-2854-08	FOAMED STYRENE PAD (REAR)	
H10-2855-08	STYRENE PAD; 83X115X30MM	
H10-2858-08	STYRENE PAD; 154X205X30MM	
H20-1734-08	VINYL COVER	
H53-0111-08	CARTON BOX	
J02-0529-08	FOOT	
J19-1671-08	CLAMPER; FOR 2-CORE AC CORD	
J19-1672-08	CLAMPER; FOR 3-CORE AC CORD	
J21-4720-08	BRACKET; FOR P.C.B.	
J21-4758-08	BRACKET; FOR AC CORD BUSHING	
J30-0635-08	VOLUME SPACER; FOR VR01	
J42-0083-05	BUSHING; FOR 2-CORE AC CORD	
J42-0085-05	BUSHING; FOR 3-CORE AC CORD	
K21-0907-14	KNOB	
K21-0911-04	KNOB; FINE/CURRENT	
K24-3006-04	KNOB, OUTPUT	
K27-0509-04	PUSH BUTTON, ORANGE; POWER	
L07-1516-08	POWER TRANSFORMER	
N09-0718-05	SCREW, SEMS PAN HD M3X6	
N09-0720-05	SCREW, SEMS PAN HD M4X10	
N09-0757-05	SCREW, SEMS BINDING TAPTITE 3X6	
N09-0789-05	SCREW, SEMS PAN HD M3X10	
N09-0797-08	SCREW, SEMS TAPTITE 3X10	
N14-0404-04	FLANGE NUT M3	
N88-3006-41	SCREW, BINDING TAPTITE 3X6	
N89-3010-41	SCREW, BINDING TAPTITE 3X10	
S40-2533-08	PUSH SWITCH; POWER	
W02-2267-08	AMP UNIT	
VR01 R29-3503-08	VOLUME 10K	
VR02 R39-0800-08	VOLUME 1K	
VR03 R29-3504-08	VOLUME 10K	

## PR18-1.2A AMP UNIT

W02-2267-08

REF. NO	PARTS NO	NAME & DESCRIPTION
F21-0674-08	EXTERNAL OUTPUT TERMINAL	
F40-7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)	
F40-7142-08	PIN CONNECTOR 1P(LINE VOLTAGE)	
J13-0518-08	FUSE CLIP; FOR 6X30MM	
J73-0326-08	PCB (UNMOUNTED)	
R92-0150-05	JUMPING RES. ZERO OHM(10MM)	
R92-1061-05	JUMPING RES. ZERO OHM (5MM)	
C1 C902M1H102K	CAP. ELECTRO 470 105°C 35V	
C3 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C4 C902M1H472K	CAP. MYLAR 4700P 10% 50V	
C5 C902M1H103K	CAP. MYLAR 0.01 10% 50V	
C6 NO USE		
C7 C90-3020-08	CAP. ELECTRO 100 105°C 25V	
C8 CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V	
C9 NO USE		
C10 C90-3021-08	CAP. ELECTRO 2200 105°C 35V	
C11 CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V	
C22 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C26 C90-3174-08	CAP. ELECTRO 10 1% 50V	
C27 NO USE		
C28 C90-3020-08	CAP. ELECTRO 100 105°C 25V	
C29 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C32 CF93AN1J1ROK	CAP. POLYESTER 1P 10% 63V	
CN1 E40-7218-08	PIN CONNECTOR 2P	
CN2 E40-7344-08	PIN CONNECTOR 3P	
CN3 NO USE		
CN4 E40-7126-08	PIN CONNECTOR 2P	
CN5 E40-7219-08	PIN CONNECTOR 3P	
CN6 NO USE		
CN7 E40-7229-08	PIN CONNECTOR 4P	
CN11 E40-7332-08	PIN CONNECTOR 4P	
CN12 E40-7333-08	PIN CONNECTOR 2P	
CN13 E40-7333-08	PIN CONNECTOR 2P	
CN18 E40-7440-08	CONNECTOR	
CN23 E40-3240-05	PIN CONNECTOR 5P	
CN24 E40-7333-08	PIN CONNECTOR 2P	
C01 C90-3018-08	CAP. ELECTRO 1 105°C 50V	
C01 C91-1323-08	CAP. CERAMIC 0.1 20% 250V	
C02 NO USE		
C03 C90-3046-08	CAP. ELECTRO 100 105°C 50V	
D1 1B4B42	DIODE, STACK	
D2 ERA15-01	DIODE	
D3 ISS270A	DIODE	
D4 ISS270A	DIODE	
D5 ISS270A	DIODE	
D6 ISS270A	DIODE	
D7 ISS270A	DIODE	
D8 NO USE		
D9 D3SB60	DIODE, STACK	
D14 ISS270A	DIODE	
D15 ISS270A	DIODE	
D16 ISS270A	DIODE	
D28 ISS270A	DIODE	
D33 ERA15-01	DIODE	
D34 ISS270A	DIODE	
D37 ERA15-01	DIODE	
D38 ISS270A	DIODE	
D39 ERA15-01	DIODE	
D01 ERA15-01	DIODE	
IC1 UPC151C	IC, OP AMP	
IC2 UPC151C	IC, OP AMP	
IC3 UPC1093J	IC, VARIABLE SHUNT REGULATOR	
IC9 HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.	
LED1 LN222RP	LED; RED	
LED2 LN322GP	LED; GREEN	
LEDO1 LN222RP	LED; RED	
Q1 2SC1815(GR)	TR. SI, NPN	
Q2 2SC1815(GR)	TR. SI, NPN	
Q3 2SC1815(GR)	TR. SI, NPN	
Q4 2SC1815(GR)	TR. SI, NPN	

# PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION			
Q5	2SC1815(CR)	TR. SI, NPN			
Q6	2SD1148(0)	TR. SI, NPN			
Q7	NO USE				
Q8	2SC3421(Y)	TR. SI, NPN			
Q15	2SC1815(GR)	TR. SI, NPN			
Q16	NO USE				
Q17	DTA143EF	TR. DIGITAL			
R1	RDI4BB2C122J	RES. CARBON	1.2K	5%	1/6W
R2	RDI4BB2C123J	RES. CARBON	12K	5%	1/6W
R2	RDI4BB2H302J	RES. CARBON	3K	5%	1/2W
R3	RDI4BB2C302J	RES. CARBON	3K	5%	1/6W
R4	RDI4BB2C510J	RES. CARBON	51	5%	1/6W
R5	RDI4BB2C682J	RES. CARBON	6.8K	5%	1/6W
R6	RDI4BB2C273J	RES. CARBON	27K	5%	1/6W
R7	RNI4BK2CS101F	RES. METAL FILM	5.1K	1%	1/6W
R8	RDI4BB2C202J	RES. CARBON	2K	5%	1/6W
R9	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R10	RDI4BB2C472J	RES. CARBON	4.7K	5%	1/6W
R11	RDI4BB2C513J	RES. CARBON	51K	5%	1/6W
R12	NO USE				
R13	RDI4BB2C202J	RES. CARBON	2K	5%	1/6W
R14	RDI4BB2C152J	RES. CARBON	1.5K	5%	1/6W
R15	RDI4BB2C511J	RES. CARBON	510	5%	1/6W
R16	RDI4BB2C512J	RES. CARBON	5.1K	5%	1/6W
R17	NO USE				
R18	RDI4BB2C513J	RES. CARBON	51K	5%	1/6W
R19	RDI4BB2C103J	RES. CARBON	10K	5%	1/6W
R20	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R21	RNI4BK2C1603F	RES. METAL FILM	160K	1%	1/6W
R22	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R23	RNI4BK2C9101F	RES. METAL FILM	9.1K	1%	1/6W
R24	RNI4BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R27	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R28	RDI4BB2C103J	RES. CARBON	10K	5%	1/6W
R29	RSI4GB3D152J	RES. METAL FILM	1.5K	5%	2W
R40	RNI4BK2C1800F	RES. METAL FILM	180	1%	1/6W
R44	RDI4BB2C101J	RES. CARBON	100	5%	1/6W
R45	RDI4DB21202J	RES. CARBON	2K	5%	1/2W
R67	RSI4GB3DR43J	RES. METAL FILM	0.43	5%	2W
R74	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R75	RDI4DB21202J	RES. CARBON	2K	5%	1/2W
R76	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R77	NO USE				
R78	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R79	RDI4DB2H102J	RES. CARBON	1K	5%	1/2W
R85	RDI4DB2H101J	RES. CARBON	100	5%	1/2W
R88	RDI4BB2C104J	RES. CARBON	100K	5%	1/6W
R89	NO USE				
R90	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R91	RDI4BB2C103J	RES. CARBON	10K	5%	1/6W
R92	RDI4BB2C102J	RES. CARBON	1K	5%	1/6W
R93	RDI4BB2C205J	RES. CARBON	2M	5%	1/6W
R94	RDI4BB2C100J	RES. CARBON	10	5%	1/6W
R95	NO USE				
R96	RDI4BB2C912J	RES. CARBON	9.1K	5%	1/6W
R01	RNI4BK2C1003F	RES. METAL FILM	100K	1%	1/6W
RY1	S76-0604-08	RELAY			
RY2	NO USE				
RY3	S76-0604-08	RELAY			
RY4	S76-0630-08	RELAY			
SW1	S68-0631-05	OUTPUT SW			
SW2	S31-1512-08	MASTER/SLAVE SWITCH			
VR1	R12-1565-08	RES. SEMI FIXED 2KB			
VR2	R12-3568-08	RES. SEMI FIXED 30KB			
VR3	R12-0597-08	RES. SEMI FIXED 100			
ZD1	H756A	DIODE, ZENER	5.75V		

PR18-3A

Y86-1860-00

REF. NO	PARTS NO	NAME & DESCRIPTION			
A01	A1237-08	CASE			
A63	A0113-08	FRONT PANEL			
B31	B0754-08	METER: CURRENT			
B31	B0755-08	METER: VOLT			
B40	B2737-24	SERIAL NO. PLATE			
B42	B3731-08	MASTER/SLAVE LABEL			
B42	B3733-08	FUSE RATING LABEL			
B42	B6035-08	RATING: AC100V 50/60HZ 100W			
B42	B6036-08	RATING: AC120V 50/60HZ 100W			
B42	B6037-08	RATING: AC220V 50/60HZ 100W			
B42	B6038-08	RATING: AC240V 50/60HZ 100W			
B42	B6039-08	RATING: AC120V 60HZ 100W			
B63	B0173-00	INSTRUCTION MANUAL: JAPANESE			
B63	B0174-00	INSTRUCTION MANUAL: ENGLISH			
E21	E0670-03	TERMINAL, RED			
E21	E0671-03	TERMINAL, BLACK			
E21	E0672-03	TERMINAL, WHITE			
E29	E0506-04	SHORTING BAR			
E29	E0542-08	LUG: M3			
E30	E0027-35	UL/CSA POWER CORD			
E30	E0545-05	JIS POWER CORD			
E30	E0571-15	SAA POWER CORD			
E30	E1815-05	CEE POWER CORD			
E30	E1867-05	BS POWER CORD			
F01	F0885-08	HEAT SINK			
F05	F2021-08	FUSE(5X20MM) 2A/250V			
F05	F2023-05	FUSE(6X32MM) 2A/250V			
F29	F0515-08	INSULATOR: FOR Q6			
F29	F0517-08	INSULATOR: FOR Q6/Q11			
F51	F0009-08	FUSE(6X30MM) 3A/125V			
H10	H2853-08	FOAMED STYRENE PAD (FRONT)			
H10	H2854-08	FOAMED STYRENE PAD (REAR)			
H20	H1734-08	VINYL COVER			
H53	H0112-08	CARTON BOX			
J02	J0529-08	FOOT			
J19	J1671-08	CLAMPER: FOR 2-CORE AC CORD			
J19	J1672-08	CLAMPER: FOR 3-CORE AC CORD			
J21	J4720-08	BRACKET: FOR P.C.B			
J21	J4758-08	BRACKET: FOR AC CORD BUSHING			
J29	J0519-08	BRACKET: FOR P.C.B			
J30	J0635-08	VOLUME SPACER: FOR VRO1			
J42	J0083-05	BUSHING: FOR 2-CORE AC CORD			
K01	K0417-05	BUSHING: FOR 3-CORE AC CORD			
K21	K0807-14	HANDLE			
K21	K0911-04	KNOB: FINE/CURRENT			
K24	K3006-04	KNOB, OUTPUT			
K27	K0509-04	PUSH BUTTON, ORANGE: POWER			
L07	L1517-08	POWER TRANSFORMER			
N09	N0718-05	SCREW, SEMS PAN HD M3X6			
N09	N0757-05	SCREW, SEMS BINDING TAPPIE 3X6			
N09	N0776-05	SCREW, SEMS PAN HD M3X10			
N09	N0777-05	SCREW, SEMS PAN HD M4X6			
N09	N0789-05	SCREW, SEMS PAN HD M3X10			
N09	N0797-08	SCREW, SEMS TAPPIE 3X10			
N14	N0404-04	FLANGE NUT M3			
N89	N3006-41	SCREW, BINDING TAPPIE 3X6			
N89	N3012-41	SCREW, BINDING TAPPIE 3X12			
S40	S2533-08	PUSH SWITCH: POWER			
W02	W2268-08	AMP UNIT			
VRO1	R29-3503-08	VOLUME 10K			
VRO2	R29-1508-08	VOLUME 1K			
VRO3	R29-3504-08	VOLUME 10K			

# PARTS LIST

## PR18-3A AMP UNIT

W02-2268-08

REF. NO	PARTS NO	NAME & DESCRIPTION
E21-0674-08	EXTERNAL OUTPUT TERMINAL	
E40-7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)	
E40-7142-08	PIN CONNECTOR 1P(LINE VOLTAGE)	
J13-0518-08	FUSE CLIP;FOR 6X30MM	
R92-0150-05	JUMPING RES. ZERO OHM(10MM)	
R92-1061-05	JUMPING RES. ZERO OHM (5MM)	
C1 C90-3019-08	CAP. ELECTRO 1000 105°C 35V	
C2 CQ92M1H102K	CAP. MYLAR 1000P 10% 50V	
C3 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C4 CQ92M1H472K	CAP. MYLAR 4700P 10% 50V	
C5 CQ92M1H103K	CAP. MYLAR 0.01 10% 50V	
C6 NO USE		
C7 C90-3020-08	CAP. ELECTRO 100 105°C 25V	
C8 CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V	
C9 NO USE		
C10 C90-3021-08	CAP. ELECTRO 2200 105°C 35V	
C11 CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V	
C22 C91-2559-08	CAP. CERAMIC 0.1 0.25P .50V	
C26 C90-3174-08	CAP. ELECTRO 10 1% 50V	
C27 NO USE		
C28 C90-3020-08	CAP. ELECTRO 100 105°C 25V	
C29 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C32 CF93AN1JIR0K	CAP. POLYESTER 1P 10% 63V	
CN1 E40-7218-08	PIN CONNECTOR 2P	
CN2 E40-7344-08	PIN CONNECTOR 3P	
CN3 NO USE		
CN4 E40-7126-08	PIN CONNECTOR 2P	
CN5 E40-7219-08	PIN CONNECTOR 3P	
CN6 E40-7219-08	PIN CONNECTOR 3P	
CN7 E40-7229-08	PIN CONNECTOR 4P	
CN8 E40-7229-08	PIN CONNECTOR 4P	
CN11 E40-7332-08	PIN CONNECTOR 4P	
CN12 E40-7333-08	PIN CONNECTOR 2P	
CN13 E40-7333-08	PIN CONNECTOR 2P	
CN18 E40-7440-08	CONNECTOR	
CN23 E40-3240-05	PIN CONNECTOR 5P	
CN24 E40-7333-08	PIN CONNECTOR 2P	
C01 C90-3018-08	CAP. ELECTRO 1 105°C 50V	
C01 C91-1323-08	CAP. CERAMIC 0.1 20% 250V	
C02 NO USE		
C03 C90-3046-08	CAP. ELECTRO 100 105°C 50V	
D1 1B4B42	DIODE, STACK	
D2 ERA15-01	DIODE	
D3 ISS270A	DIODE	
D4 ISS270A	DIODE	
D5 ISS270A	DIODE	
D6 ISS270A	DIODE	
D7 ISS270A	DIODE	
D8 NO USE		
D9 D10XB40	DIODE, STACK	
D10 ERA15-01	DIODE	
D14 ISS270A	DIODE	
D15 ISS270A	DIODE	
D16 ISS270A	DIODE	
D28 ISS270A	DIODE	
D33 ERA15-01	DIODE	
D34 ISS270A	DIODE	
D37 ERA15-01	DIODE	
D38 ISS270A	DIODE	
D39 ERA15-01	DIODE	
D01 30D1	DIODE	
IC1 UPG151C	IC, OP AMP	
IC2 UPG151C	IC, OP AMP	
IC3 IPC1093J	IC, VARIABLE SHUNT REGULATOR	
IC9 HAI78L12A	IC, TERMINAL FIXED VOLTAGE REG.	
LED1 LN222RP	LED:RED	
LED2 LN322GP	LED:GREEN	
LEDO LN222RP	LED:RED	
LEDO1 LN222RP	LED:RED	
Q1 2SC1815(GR)	TR. SI, NPN	
Q2 2SC1815(GR)	TR. SI, NPN	
Q3 2SC1815(GR)	TR. SI, NPN	

REF. NO	PARTS NO	NAME & DESCRIPTION
Q4	2SC1815(GR)	TR. SI, NPN
Q5	2SC1815(GR)	TR. SI, NPN
Q6	2SD1148(O)	TR. SI, NPN
Q7	2SC2238(Y)	TR. SI, NPN
Q8	2SC3421(Y)	TR. SI, NPN
Q9	2SC1815(GR)	TR. SI, NPN
Q10	2SC1815(GR)	TR. SI, NPN
Q15	2SC1815(GR)	TR. SI, NPN
Q16	NO USE	
Q17	DTA143EF	TR. DIGITAL
Q11A	2SD1148(O)	TR. SI, NPN
Q11B	2SD1148(O)	TR. SI, NPN
R1	RDI4BB2C122J	RES. CARBON 1.2K 5% 1/6W
R2	RDI4BB2C123J	RES. CARBON 1.2K 5% 1/6W
R2	RDI4DB2H302J	RES. CARBON 3K 5% 1/2W
R3	RDI4BB2C302J	RES. CARBON 3K 5% 1/6W
R4	RDI4BB2C510J	RES. CARBON 51 5% 1/6W
R5	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R6	RDI4BB2C273J	RES. CARBON 27K 5% 1/6W
R7	RNI4BK2C5101F	RES. METAL FILM 5.1K 1% 1/6W
R8	RDI4BB2C202J	RES. CARBON 2K 5% 1/6W
R9	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R10	RDI4BB2C511J	RES. CARBON 510 5% 1/6W
R12	NO USE	
R13	RDI4BB2C202J	RES. CARBON 2K 5% 1/6W
R14	RDI4BB2C152J	RES. CARBON 1.5K 5% 1/6W
R15	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R16	RDI4BB2C512J	RES. CARBON 5.1K 5% 1/6W
R17	NO USE	
R18	RDI4BB2C513J	RES. CARBON 51K 5% 1/6W
R19	RDI4BB2C103J	RES. CARBON 10K 5% 1/6W
R20	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R21	RNI4BK2C303F	RES. METAL FILM 330K 1% 1/6W
R22	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R23	RNI4BK2C901F	RES. METAL FILM 9.1K 1% 1/6W
R24	RNI4BK2C3001F	RES. METAL FILM 3K 1% 1/6W
R27	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R28	RDI4BB2C103J	RES. CARBON 10K 5% 1/6W
R29	RS14GB3D152J	RES. METAL FILM 1.5K 5% 2W
R30	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
R34	RDI4BB2C122J	RES. CARBON 1.2K 5% 1/6W
R35	RDI4BB2C123J	RES. CARBON 12K 5% 1/6W
R36	RDI4BB2C302J	RES. CARBON 3K 5% 1/6W
R37	RDI4BB2C510J	RES. CARBON 51 5% 1/6W
R38	RDI4BB2C133J	RES. CARBON 13K 5% 1/6W
R39	RDI4BB2C273J	RES. CARBON 27K 5% 1/6W
R40	RNI4BK2C510F	RES. METAL FILM 51.0 1% 1/6W
R43	RDI4BB2C103J	RES. CARBON 10K 5% 1/6W
R44	RDI4BB2C101J	RES. CARBON 100 5% 1/6W
R45	RDI4DB2H202J	RES. CARBON 2K 5% 1/2W
R67	RS14GB3DR15J	RES. METAL FILM 0.15 5% 2W
R74	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R75	RDI4DB2H202J	RES. CARBON 2K 5% 1/2W
R76	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R77	NO USE	
R78	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R79	RDI4DB2H102J	RES. CARBON 1K 5% 1/2W
R85	RDI4DB2H101J	RES. CARBON 100 5% 1/2W
R88	RDI4BB2C104J	RES. CARBON 100K 5% 1/6W
R89	NO USE	
R90	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R91	RDI4BB2C103J	RES. CARBON 10K 5% 1/6W
R92	RDI4BB2C102J	RES. CARBON 1K 5% 1/6W
R93	RDI4BB2C205J	RES. CARBON 2M 5% 1/6W
R94	RDI4BB2C100J	RES. CARBON 10 5% 1/6W
R95	NO USE	
R96	RDI4BB2C912J	RES. CARBON 9.1K 5% 1/6W
R32A	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
R32B	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
R01	RNI4BK2C1003F	RES. METAL FILM 100K 1% 1/6W
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	RELAY
RY3	S76-0604-08	RELAY
RY4	S76-0630-08	RELAY
SW1	S68-0631-05	OUTPUT SW
SW2	S31-1512-08	MASTER/SLAVE SWITCH
VRI	R12-1565-08	RES. SEMI FIXED 2KB
VR2	R12-5547-08	RES. SEMI FIXED 100KB
VR3	R12-0597-08	RES. SEMI FIXED 100
ZD1	H7S6A	DIODE, ZENER 5.75V

# PARTS LIST

## PR18-5A

Y86-1870-00

REF. NO	PARTS NO	NAME & DESCRIPTION
A01-1238-08	COVER	
A63-0114-08	FRONT PANEL	
B31-0757-08	METER; VOLT	
B31-0758-08	METER; CURRENT	
B40-2737-24	SERIAL NO. PLATE	
B42-3731-08	MASTER/SLAVE LABEL	
B42-3738-08	FUSE RATING LABEL	
B42-6055-08	RATING: AC100V 50/60HZ 165W	
B42-6056-08	RATING: AC120V 50/60HZ 165W	
B42-6057-08	RATING: AC220V 50/60HZ 165W	
B42-6058-08	RATING: AC240V 50/60HZ 165W	
B42-6059-08	RATING: AC120V 60HZ 165W	
B63-0173-00	INSTRUCTION MANUAL: JAPANESE	
B63-0174-00	INSTRUCTION MANUAL: ENGLISH	
E21-0670-03	TERMINAL, RED	
E21-0671-03	TERMINAL, BLACK	
E21-0672-03	TERMINAL, WHITE	
E29-0506-04	SHORTING BAR	
E29-0542-08	LUG: M3	
E30-0027-35	UL/CSA POWER CORD	
E30-0545-05	JIS POWER CORD	
E30-0571-15	SAA POWER CORD	
E30-1815-05	CEE POWER CORD	
E30-1867-05	BS POWER CORD	
F01-0886-08	HEAT SINK	
F05-3022-05	FUSE (6X32MM) 3A/250V	
F29-0517-08	INSULATOR; FOR Q6/Q11	
F29-0518-08	INSULATOR; FOR Q11A/Q11B/Q11C	
F50-0004-08	FUSE (5X20MM) 3A/250V	
F51-0010-08	FUSE (6X30MM) 5A/125V	
H10-2856-08	FOAMED STYRENE PAD (FRONT)	
H10-2857-08	FOAMED STYRENE PAD (REAR)	
H20-1734-08	VINYL COVER	
H53-0113-08	CARTON BOX	
J02-0529-08	FOOT	
J19-1671-08	CLAMPER; FOR 2-CORE AC CORD	
J19-1672-08	CLAMPER; FOR 3-CORE AC CORD	
J21-4720-08	BRACKET; FOR P.C.B.	
J21-4758-08	BRACKET; FOR AC CORD BUSHING	
J30-0635-08	VOLUME SPACER; FOR VR01	
J42-0083-05	BUSHING; FOR 2-CORE AC CORD	
J42-0085-05	BUSHING; FOR 3-CORE AC CORD	
K01-0417-05	HANDLE	
K21-0907-14	KNOB	
K21-0911-04	KNOB; FINE/CURRENT	
K24-3006-04	KNOB, OUTPUT	
K27-0509-04	PUSH BUTTON, ORANGE; POWER	
L07-1518-08	POWER TRANSFORMER	
N09-0718-05	SCREW, SEMS PAN HD M3X6	
N09-0757-05	SCREW, SEMS BINDING TAPTITE 3X6	
N09-0776-05	SCREW, SEMS PAN HD M3X10	
N09-0777-05	SCREW, SEMS PAN HD M4X6	
N09-0789-05	SCREW, SEMS PAN HD M3X10	
N09-0797-08	SCREW, SEMS TAPTITE 3X10	
N14-0404-04	FLANGE NUT M3	
N89-3006-41	SCREW, BINDING TAPTITE 3X6	
N89-3012-41	SCREW, BINDING TAPTITE 3X12	
S40-2533-08	PUSH SWITCH; POWER	
W02-2269-08	AMP UNIT	
VR01	R29-3503-08	VOLUME 10K
VR02	R29-1508-08	VOLUME 1K
VR03	R29-3504-08	VOLUME 10K

## PR18-5A AMP UNIT

W02-2269-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E40-7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)
	E40-7142-08	PIN CONNECTOR 1P(LINE VOLTAGE)
	J13-0518-08	FUSE CLIP; FOR 6X30MM
	J73-0326-08	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(10MM)
	R92-1061-05	JUMPING RES. ZERO OHM(5MM)
C1	C90-3019-08	CAP. ELECTRO 1000 105°C 35V
C2	C92M1H102K	CAP. MYLAR 1000P 10% 50V
C3	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C4	C92M1H472K	CAP. MYLAR 4700P 10% 50V
C5	C92M1H103K	CAP. MYLAR 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V
C9	NO USE	
C10	C90-3024-08	CAP. ELECTRO 3300 105°C 35V
C11	CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V
C22	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C26	C90-3174-08	CAP. ELECTRO 10 1% 50V
C27	NO USE	
C28	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C29	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C32	CF93AN1JIROK	CAP. POLYESTER 1P 10% 63V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7344-08	PIN CONNECTOR 3P
CN3	NO USE	
CN4	E40-7126-08	PIN CONNECTOR 2P
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6	E40-7219-08	PIN CONNECTOR 3P
CN7	E40-7229-08	PIN CONNECTOR 4P
CN8	E40-7229-08	PIN CONNECTOR 4P
CN11	E40-7332-08	PIN CONNECTOR 4P
CN12	E40-7333-08	PIN CONNECTOR 2P
CN13	E40-7333-08	PIN CONNECTOR 2P
CN18	E40-7440-08	CONNECTOR
CN23	E40-3240-05	PIN CONNECTOR 5P
CN24	E40-7333-08	PIN CONNECTOR 2P
C01	C90-3018-08	CAP. ELECTRO 1 105°C 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3046-08	CAP. ELECTRO 100 105°C 50V
D1	1BA442	DIODE, STACK
D2	ERA15-01	DIODE
D3	ISS270A	DIODE
D4	ISS270A	DIODE
D5	ISS270A	DIODE
D6	ISS270A	DIODE
D7	ISS270A	DIODE
D8	NO USE	
D9	D15XB40	DIODE, STACK
D10	ERA15-01	DIODE
D14	ISS270A	DIODE
D15	ISS270A	DIODE
D16	ISS270A	DIODE
D28	ISS270A	DIODE
D33	ERA15-01	DIODE
D34	ISS270A	DIODE
D37	ERA15-01	DIODE
D38	ISS270A	DIODE
D39	ERA15-01	DIODE
D01	30D1	DIODE
IC1	UPC151C	IC, OP AMP
IC2	UPC151C	IC, OP AMP
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.
LED1	LN322GP	LED: GREEN
LED2	LN222RP	LED: RED
LEDO	LN222RP	LED: RED
LEDO1	LN222RP	LED: RED
Q1	2SC1815 (GR)	TR. SI, NPN
Q2	2SC1815 (GR)	TR. SI, NPN
Q3	2SC1815 (GR)	TR. SI, NPN

# PARTS LIST

W02-2269-08

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
Q4	2SC1815 (GR)	TR. SI, NPN	SW1	S68-0631-05	OUTPUT SW
Q5	2SC1815 (GR)	TR. SI, NPN	SW2	S31-1512-08	MASTER/SLAVE SWITCH
Q6	2SD1148 (O)	TR. SI, NPN	VR1	R12-1565-08	RES. SEMI FIXED 2KB
Q7	2SC2238 (Y)	TR. SI, NPN	VR2	R12-5547-08	RES. SEMI FIXED 100KB
Q8	2SC3421 (Y)	TR. SI, NPN	VR3	R12-0597-08	RES. SEMI FIXED 100
Q9	2SC1815 (GR)	TR. SI, NPN	ZD1	HZSGA	DIODE, ZENER 5.75V
Q10	2SC1815 (GR)	TR. SI, NPN			
Q11	2SD1148 (O)	TR. SI, NPN			
Q15	2SC1815 (GR)	TR. SI, NPN			
Q16	NO USE				
Q17	DTA143EF	TR. DIGITAL			
Q11A	2SD1148 (O)	TR. SI, NPN			
Q11B	2SD1148 (O)	TR. SI, NPN			
Q11C	2SD1148 (O)	TR. SI, NPN			
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R2	RD14BB2H302J	RES. CARBON 3K 5% 1/6W			
R3	KD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R4	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R5	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R7	RN14BK2C5101F	RES. METAL FILM 5.1K 1% 1/6W			
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R10	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R11	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R12	NO USE				
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W			
R15	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W			
R17	NO USE				
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R21	RN14BK2C3303F	RES. METAL FILM 330K 1% 1/6W			
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R23	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R24	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R29	RS14GB3D152J	RES. METAL FILM 1.5K 5% 2W			
R30	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R31	NO USE				
R32	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R33	NO USE				
R34	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R35	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R36	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R37	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R38	RD14BB2C133J	RES. CARBON 13K 5% 1/6W			
R39	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R40	RN14BK2C510F	RES. METAL FILM 51.0 1% 1/6W			
R43	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R45	RD14DB2H202J	RES. CARBON 2K 5% 1/2W			
R67	RS14GB3DR12J	RES. METAL FILM 0.12 5% 2W			
R74	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R75	RD14DB2H202J	RES. CARBON 2K 5% 1/2W			
R76	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R77	NO USE				
R78	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R79	RD14DB2H102J	RES. CARBON 1K 5% 1/2W			
R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W			
R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W			
R89	NO USE				
R90	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R92	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R93	RD14BB2C205J	RES. CARBON 2K 5% 1/6W			
R94	RD14BB2C100J	RES. CARBON 10 5% 1/6W			
R95	NO USE				
R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W			
R32A	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R32B	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R32C	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R01	RN14BK2C4003F	RES. METAL FILM 100K 1% 1/6W			
RY1	S76-0604-08	RELAY			
RY2	S76-0604-08	RELAY			
RY3	S76-0604-08	RELAY			
RY4	S76-0630-08	RELAY			

## PARTS LIST

**PR36-1.2A**  
**Y86-1880-00**

REF. NO	PARTS NO	NAME & DESCRIPTION
A01-1236-08	COVER	
A63-0115-08	FRONT PANEL	
B31-0756-08	METER:CURRENT	
B31-0759-08	METER:VOLT	
B40-2737-24	SERIAL NO. PLATE	
B42-3731-08	MASTER/SLAVE LABEL	
B42-3740-08	FUSE RATING LABEL	
B42-6025-08	RATING:AC100V 50/60HZ 73W	
B42-6026-08	RATING:AC120V 50/60HZ 73W	
B42-6027-08	RATING:AC220V 50/60HZ 73W	
B42-6028-08	RATING:AC240V 50/60HZ 73W	
B42-6029-08	RATING:AC120V 60HZ 73W	
B63-0173-00	INSTRUCTION MANUAL:JAPANESE	
B63-0174-00	INSTRUCTION MANUAL:ENGLISH	
E21-0670-03	TERMINAL,RED	
E21-0671-03	TERMINAL,BLACK	
E21-0672-03	TERMINAL,WHITE	
E29-0506-04	SHORTING BAR	
E29-0542-08	LUG:M3	
E30-0027-35	UL/CSA POWER CORD	
E30-0545-05	JIS POWER CORD	
E30-0571-15	SAA POWER CORD	
E30-1815-05	CEE POWER CORD	
E30-1867-05	BS POWER CORD	
F01-0884-08	HEAT SINK	
F05-1521-08	FUSE(6X32MM) 1.5A/250V	
F29-0517-08	INSULATOR:FOR Q6/Q11	
F50-0003-08	FUSE(5X20MM) 1.5A/250V	
F51-0008-08	FUSE(6X30MM) 2.5A/125V	
H10-2853-08	FOAMED STYRENE PAD (FRONT)	
H10-2854-08	FOAMED STYRENE PAD (REAR)	
H10-2855-08	STYRENE PAD:83X115X30MM	
H10-2858-08	STYRENE PAD:154X205X30MM	
H20-1734-08	VINYL COVER	
H53-0114-08	CARTON BOX	
J02-0529-08	FOOT	
J19-1671-08	CLAMPER:FOR 2-CORE AC CORD	
J19-1672-08	CLAMPER:FOR 3-CORE AC CORD	
J21-4720-08	BRACKET:FOR P.C.B	
J21-4758-08	BRACKET:FOR AC CORD BUSHING	
J30-0635-08	VOLUME SPACER:FOR VRO1	
J42-0083-05	BUSHING:FOR 2-CORE AC CORD	
J42-0085-05	BUSHING:FOR 3-CORE AC CORD	
K21-0907-14	KNOB	
K21-0911-04	KNOB:FINE/CURRENT	
K24-3006-04	KNOB,OUTPUT	
K27-0509-04	PUSH BUTTON,ORANGE:POWER	
L07-1519-08	POWER TRANSFORMER	
N09-0718-05	SCREW,SEMS PAN HD M3X6	
N09-0720-05	SCREW,SEMS PAN HD M4X10	
N09-0757-05	SCREW,SEMS BINDING TAPPIE 3X6	
N09-0789-05	SCREW,SEMS PAN HD M3X10	
N09-0797-08	SCREW,SEMS TAPPIE 3X10	
N14-0404-04	FLANGE NUT M3	
N89-3006-41	SCREW,BINDING TAPPIE 3X6	
N89-3010-41	SCREW,BINDING TAPPIE 3X10	
S40-2533-08	PUSH SWITCH:POWER	
W02-2270-08	AMP UNIT	
VRO1 R29-3503-08	VOLUME 10K	
VRO2 R39-0800-08	VOLUME 1K	
VRO3 R29-3504-08	VOLUME 10K	

**PR36-1.2A AMP UNIT**  
**W02-2270-08**

REF. NO	PARTS NO	NAME & DESCRIPTION
E21-0674-08	EXTERNAL OUTPUT TERMINAL	
E40-4142-08	PIN CONNECTOR 1P	
E40-7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)	
J13-0518-08	FUSE CLIP:FOR 6X30MM	
J73-0326-08	PCR (UNMOUNTED)	
R92-0150-05	JUMPING RES. ZERO OHM(10MH)	
R92-1061-05	JUMPING RES. ZERO OHM(5MH)	
C1 C90-3023-08	CAP. ELECTRO 470 105°C 35V	
C2 CQ92M1H102K	CAP. NYLAR 1000P 10% 50V	
C3 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C4 CQ92M1H472K	CAP. NYLAR 4700P 10% 50V	
C5 CQ92M1H103K	CAP. NYLAR 0.01 10% 50V	
C6 NO USE		
C7 C90-3020-08	CAP. ELECTRO 100 105°C 25V	
C8 CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V	
C9 NO USE		
C10 C90-3025-08	CAP. ELECTRO 1000 105°C 63V	
C11 CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V	
C22 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C26 C90-3174-08	CAP. ELECTRO 10 1% 50V	
C27 NO USE		
C28 C90-3020-08	CAP. ELECTRO 100 105°C 25V	
C29 C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V	
C32 CF93AN1J1R0K	CAP. POLYESTER 1P 10% 63V	
CN1 E40-7218-08	PIN CONNECTOR 2P	
CN2 E40-7344-08	PIN CONNECTOR 3P	
CN3 NO USE		
CN4 E40-7126-08	PIN CONNECTOR 2P	
CN5 E40-7219-08	PIN CONNECTOR 3P	
CN6 NO USE		
CN7 E40-7229-08	PIN CONNECTOR 4P	
CN11 E40-7332-08	PIN CONNECTOR 4P	
CN12 E40-7333-08	PIN CONNECTOR 2P	
CN13 E40-7333-08	PIN CONNECTOR 2P	
CN18 E40-7440-08	CONNECTOR	
CN23 E40-3240-05	PIN CONNECTOR 5P	
CN24 E40-7333-08	PIN CONNECTOR 2P	
G01 C90-3018-08	CAP. ELECTRO 1 105°C 50V	
C01 C91-1323-08	CAP. CERAMIC 0.1 20% 250V	
C03 C90-3046-08	CAP. ELECTRO 100 105°C 50V	
D1 1B4B42	DIODE, STACK	
D2 ERA15-01	DIODE	
D3 ISS270A	DIODE	
D4 ISS270A	DIODE	
D5 ISS270A	DIODE	
D6 ISS270A	DIODE	
D7 ISS270A	DIODE	
D8 NO USE		
D9 D3SB60	DIODE, STACK	
D10 ERA15-01	DIODE	
D14 ISS270A	DIODE	
D15 ISS270A	DIODE	
D16 ISS270A	DIODE	
D28 ISS270A	DIODE	
D33 ERA15-01	DIODE	
D34 ISS270A	DIODE	
D37 ERA15-01	DIODE	
D38 ISS270A	DIODE	
D39 ERA15-01	DIODE	
D01 ERA15-01	DIODE	
IC1 UPC151C	IC,OP AMP	
IC2 UPC151C	IC,OP AMP	
IC3 UPC1093J	IC,VARIABLE SHUNT REGULATOR	
IC9 HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.	
LED1 LN222RP	LED:RED	
LED2 LN322GP	LED:GREEN	
LEDO1 LN222RP	LED:RED	
Q1 2SC1815(GR)	TR. SI, NPN	
Q2 2SC1815(GR)	TR. SI, NPN	
Q3 2SC1815(GR)	TR. SI, NPN	

## PARTS LIST

**PR36-3A**  
**Y86-1890-00**

REF. NO	PARTS NO	NAME & DESCRIPTION
Q4 2SC1815(GR)	TR. SI, NPN	
Q5 2SC1815(GR)	TR. SI, NPN	
Q6 2SD1148(O)	TR. SI, NPN	
Q7 2SC2238(Y)	TR. SI, NPN	
Q8 2SC3421(Y)	TR. SI, NPN	
Q9 2SC1815(GR)	TR. SI, NPN	
Q10 2SC1815(GR)	TR. SI, NPN	
Q11 2SD1148(O)	TR. SI, NPN	
Q15 2SC1815(GR)	TR. SI, NPN	
Q16 NO USE		
Q17 DTA143EF	TR. DIGITAL	
R1 RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W	
R2 RD14BB2C123J	RES. CARBON 1.2K 5% 1/6W	
R3 RD14DB2H302J	RES. CARBON 3K 5% 1/2W	
R4 RD14BB2C302J	RES. CARBON 51 5% 1/6W	
R5 RD14BB2C123J	RES. CARBON 12K 5% 1/6W	
R6 RD14BB2C273J	RES. CARBON 27K 5% 1/6W	
R7 RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W	
R8 RD14BB2C202J	RES. CARBON 2K 5% 1/6W	
R9 RD14BB2C102J	RES. CARBON 1K 5% 1/6W	
R10 RD14BB2C103J	RES. CARBON 10K 5% 1/6W	
R11 RD14BB2C513J	RES. CARBON 51K 5% 1/6W	
R12 NO USE		
R13 RD14BB2C202J	RES. CARBON 2K 5% 1/6W	
R14 RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W	
R15 RD14BB2C102J	RES. CARBON 1K 5% 1/6W	
R16 RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W	
R17 NO USE		
R18 RD14BB2C513J	RES. CARBON 51K 5% 1/6W	
R19 RD14BB2C103J	RES. CARBON 10K 5% 1/6W	
R20 RD14BB2C102J	RES. CARBON 1K 5% 1/6W	
R21 RN14BK2C303F	RES. METAL FILM 330K 1% 1/6W	
R22 RD14BB2C102J	RES. CARBON 1K 5% 1/6W	
R23 RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W	
R24 RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W	
R27 RD14BB2C102J	RES. CARBON 1K 5% 1/6W	
R28 RD14BB2C103J	RES. CARBON 10K 5% 1/6W	
R29 RSI4GB3D392J	RES. METAL FILM 3.9K 5% 2W	
R30 RSI4GB3A47J	RES. METAL FILM 0.47 5% 1W	
R31 NO USE		
R32 RSI4GB3A47J	RES. METAL FILM 0.47 5% 1W	
R33 NO USE		
R34 RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W	
R35 RD14BB2C123J	RES. CARBON 12K 5% 1/6W	
R36 RD14BB2C302J	RES. CARBON 3K 5% 1/6W	
R37 RD14BB2C510J	RES. CARBON 51 5% 1/6W	
R38 RD14BB2C333J	RES. CARBON 33K 5% 1/6W	
R39 RD14BB2C273J	RES. CARBON 27K 5% 1/6W	

## PARTS LIST

### PR36-3A AMP UNIT W02-2271-08

REF. NO	PARTS NO	NAME & DESCRIPTION
E21-0674-08		EXTERNAL OUTPUT TERMINAL
E40-7141-08		PIN CONNECTOR 2P(LINE VOLTAGE)
E40-7142-08		PIN CONNECTOR 1P(LINE VOLTAGE)
J13-0518-08		FUSE CLIP:FOR 6X30MM
J73-0326-08		PCB (UNMOUNTED)
R92-0150-05		JUMPING RES. ZERO OHM(10MM)
R92-1061-05		JUMPING RES. ZERO OHM (5MM)
C1 C90-3019-08		CAP. ELECTRO 1000 105°C 35V
C2 CQ92N1H102K		CAP. MYLAR 1000P 10% 50V
C3 C91-2559-08		CAP. CERAMIC 0.1 0.25P 50V
C4 CQ92N1H472K		CAP. MYLAR 4700P 10% 50V
C5 CQ92N1H103K		CAP. MYLAR 0.01 10% 50V
C6 NO USE		
C7 C90-3020-08		CAP. ELECTRO 100 105°C 25V
C8 CF93AN2ER22K		CAP. POLYESTER 0.22P 10% 250V
C9 NO USE		
C10 C90-3042-08		CAP. ELECTRO 2200 105°C 63V
C11 CF93AN1JR22K		CAP. POLYESTER 0.22P 10% 63V
C22 C91-2559-08		CAP. CERAMIC 0.1 0.25P 50V
C26 C90-3174-08		CAP. ELECTRO 10 1% 50V
C27 NO USE		
C28 C90-3020-08		CAP. ELECTRO 100 105°C 25V
C29 C91-2559-08		CAP. CERAMIC 0.1 0.25P 50V
C32 CF93AN1JIROK		CAP. POLYESTER 1P 10% 63V
CN1 E40-7218-08		PIN CONNECTOR 2P
CN2 E40-7344-08		PIN CONNECTOR 3P
CN3 NO USE		
CN4 E40-7126-08		PIN CONNECTOR 2P
CN5 E40-7219-08		PIN CONNECTOR 3P
CNG E40-7219-08		PIN CONNECTOR 3P
CN7 E40-7229-08		PIN CONNECTOR 4P
CN8 E40-7229-08		PIN CONNECTOR 4P
CN11 E40-7332-08		PIN CONNECTOR 4P
CN12 E40-7333-08		PIN CONNECTOR 2P
CN13 E40-7333-08		PIN CONNECTOR 2P
CN18 E40-7440-08		CONNECTOR
CN23 E40-3240-05		PIN CONNECTOR 5P
CN24 E40-7333-08		PIN CONNECTOR 2P
C01 C90-3018-08		CAP. ELECTRO 1 105°C 50V
C01 C91-1323-08		CAP. CERAMIC 0.1 20% 250V
C02 NO USE		
C03 C90-3046-08		CAP. ELECTRO 100 105°C 50V
D1 IB4B42		DIODE, STACK
D2 ERA15-01		DIODE
D3 ISS270A		DIODE
D4 ISS270A		DIODE
D5 ISS270A		DIODE
D6 ISS270A		DIODE
D7 ISS270A		DIODE
D8 NO USE		
D9 D10XB40		DIODE, STACK
D10 ERA15-01		DIODE
D14 ISS270A		DIODE
D15 ISS270A		DIODE
D16 ISS270A		DIODE
D28 ISS270A		DIODE
D33 ERA15-01		DIODE
D34 ISS270A		DIODE
D37 ERA15-01		DIODE
D38 ISS270A		DIODE
D39 ERA15-01		DIODE
D01 3OD1		DIODE
IC1 UPC151C		IC,OP AMP
IC2 UPC151C		IC,OP AMP
IC3 UPC1093J		IC,VARIABLE SHUNT REGULATOR
IC9 HAI78L12A		IC, TERMINAL FIXED VOLTAGE REG.
LED1 LN322GP		LED:GREEN
LED2 LN222RP		LED:RED
LEDO LN222RP		LED:RED
LEDO1 LN222RP		LED:RED
Q1 2SC1815(GR)		TR. SI, NPN
Q2 2SC1815(GR)		TR. SI, NPN

REF. NO	PARTS NO	NAME & DESCRIPTION
Q3	2SC1815(GR)	TR. SI, NPN
Q4	2SC1815(GR)	TR. SI, NPN
Q5	2SC1815(GR)	TR. SI, NPN
Q6	2SD1148(O)	TR. SI, NPN
Q7	2SC2238(Y)	TR. SI, NPN
Q8	2SC3421(Y)	TR. SI, NPN
Q9	2SC1815(GR)	TR. SI, NPN
Q10	2SC1815(GR)	TR. SI, NPN
Q11	2SD1148(O)	TR. SI, NPN
Q15	2SC1815(GR)	TR. SI, NPN
Q16	NO USE	
Q17	DTA143EF	TR. DIGITAL
Q1A	2SD1148(O)	TR. SI, NPN
Q1B	2SD1148(O)	TR. SI, NPN
Q1C	2SD1148(O)	TR. SI, NPN
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R3	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R4	RD14BB2C510J	RES. CARBON 51 5% 1/6W
R5	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R7	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R10	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R11	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R12	NO USE	
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W
R15	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W
R17	NO USE	
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R21	RN14BK2C3303F	RES. METAL FILM 330K 1% 1/6W
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R23	RN14BK2C9102F	RES. METAL FILM 91K 1% 1/6W
R24	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R29	RS14GB3D392J	RES. METAL FILM 3.9K 5% 2W
R30	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R31	NO USE	
R32	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R33	NO USE	
R34	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R35	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R36	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R37	RD14BB2C510J	RES. CARBON 51 5% 1/6W
R38	RD14BB2C333J	RES. CARBON 33K 5% 1/6W
R39	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R40	RN14BK2C510F	RES. METAL FILM 51.0 1% 1/6W
R43	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R45	RD14DB2H822J	RES. CARBON 8.2K 5% 1/2W
R67	RS14GB3DR15J	RES. METAL FILM 0.15 5% 2W
R74	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R75	RD14DB2H822J	RES. CARBON 8.2K 5% 1/2W
R76	RD14BR2C102J	RES. CARBON 1K 5% 1/6W
R77	NO USE	
R78	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R79	RD14DR2H102J	RES. CARBON 1K 5% 1/2W
R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W
R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R89	NO USE	
R90	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R92	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R93	RD14BB2C205J	RES. CARBON 2M 5% 1/6W
R94	RD14BB2C510J	RES. CARBON 51 5% 1/6W
R95	NO USE	
R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
R32A	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R32B	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R32C	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R01	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	RELAY
RY3	S76-0604-08	RELAY
RY4	S76-0604-08	RELAY

## PARTS LIST

### PR70-1A Y86-1900-00

REF. NO	PARTS NO	NAME & DESCRIPTION
SW1	S68-0631-05	OUTPUT SW
SW2	S31-1512-08	MASTER/SLAVE SWITCH
ZD1	H2SGA	DIODE, ZENER 5.75V
VR1	R12-1564-08	RES. SEMI FIXED 1KB
VR2	R12-5547-08	RES. SEMI FIXED 100KB
VR3	R12-0597-08	RES. SEMI FIXED 100
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	RELAY
RY3	S76-0604-08	RELAY
RY4	S76-0604-08	RELAY
A01-1237-08	CASE	
A63-0117-08	FRONT PANEL	
B31-0761-08	METER:CURRENT	
B31-0762-08	METER:VOLT	
B40-2737-24	SERIAL NO. PLATE	
B42-3731-08	FUSE RATING LABEL	
B42-6050-08	RATING:AC100V 50/60HZ 110W	
B42-6051-08	RATING:AC120V 50/60HZ 110W	
B42-6052-08	RATING:AC220V 50/60HZ 110W	
B42-6053-08	RATING:AC240V 50/60HZ 110W	
B42-6054-08	RATING:AC120V 60HZ 110W	
B63-0173-00	INSTRUCTION MANUAL; JAPANE	

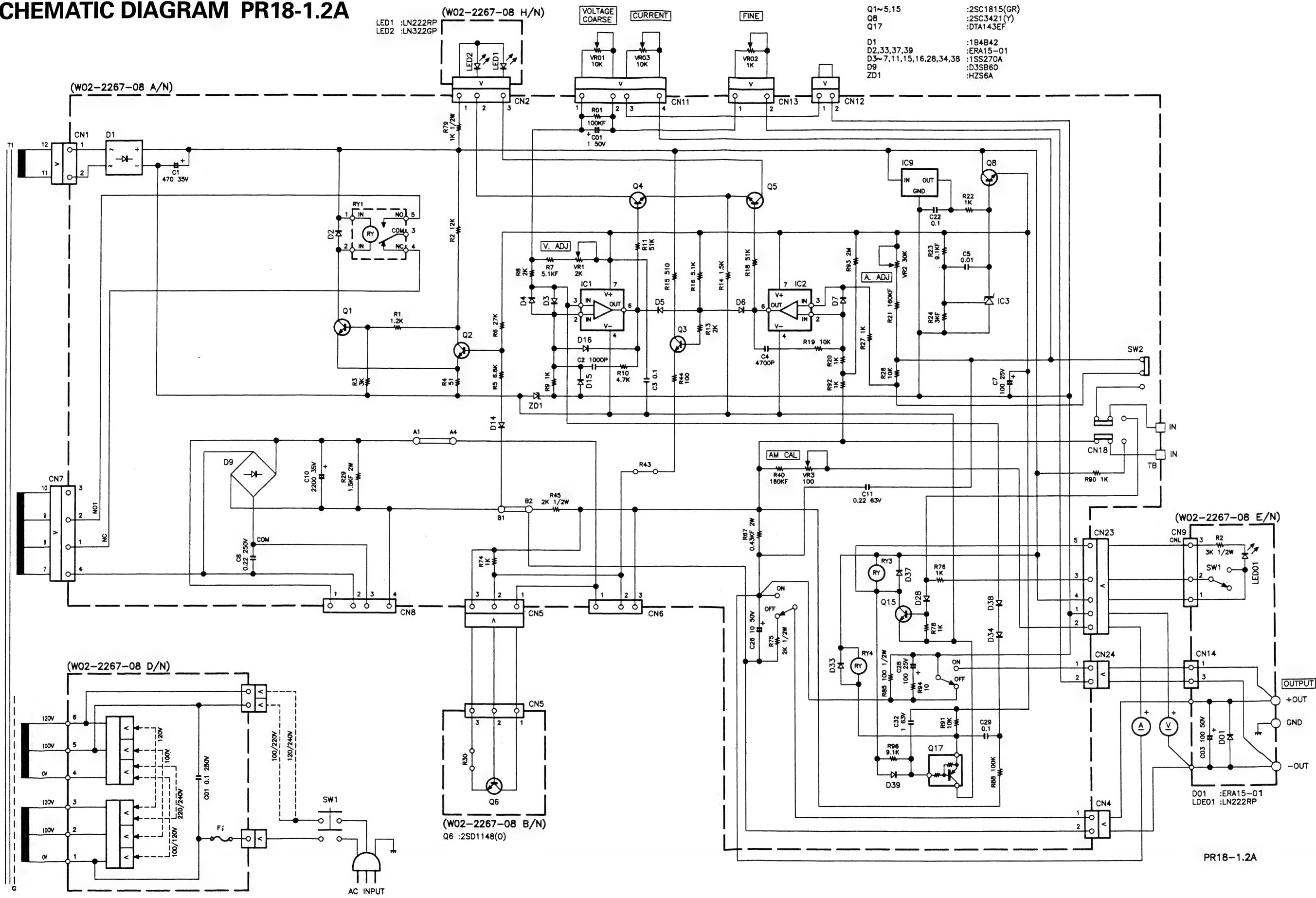
## PARTS LIST

### PR70-1A AMP UNIT W02-2272-08

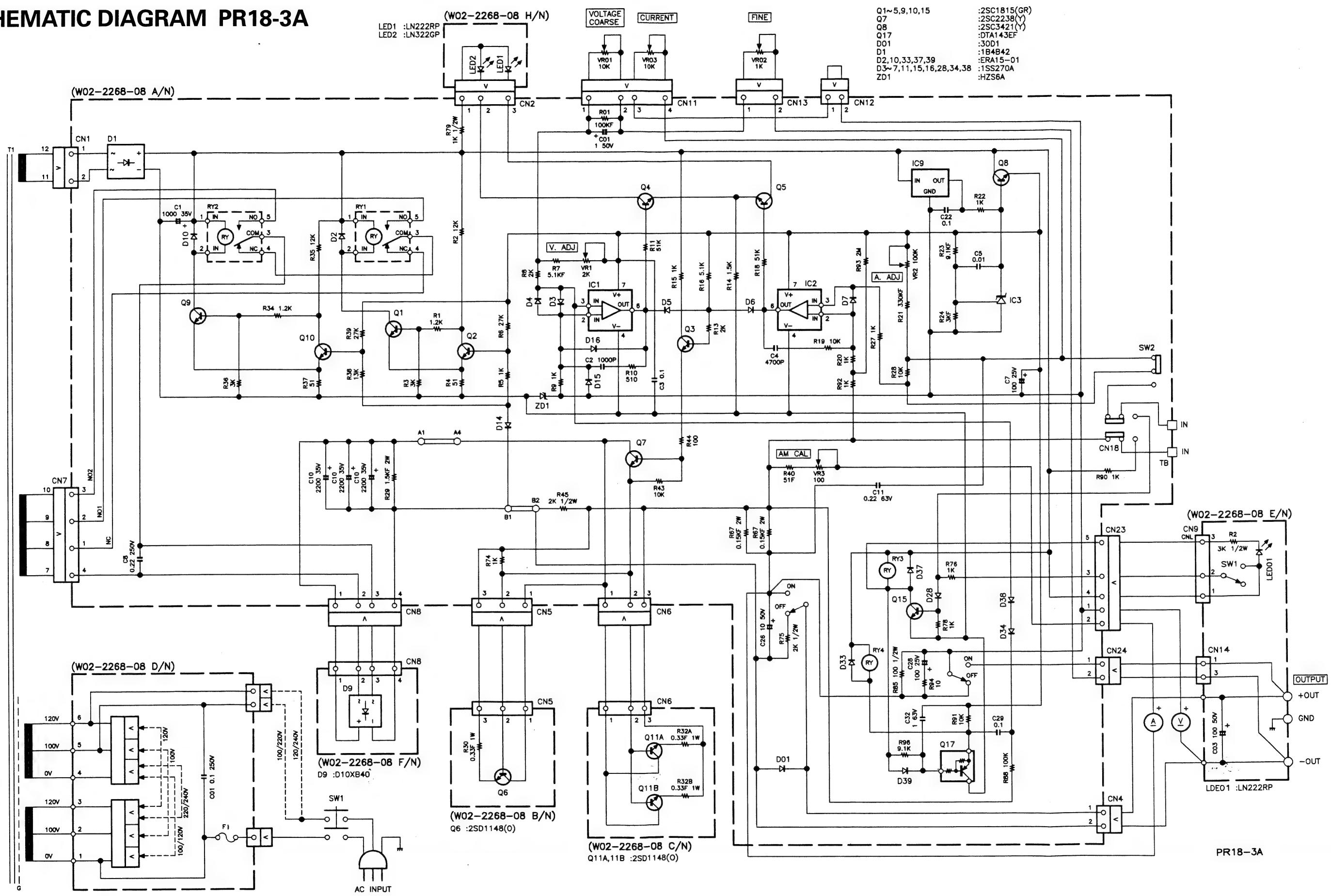
REF. NO	PARTS NO	NAME & DESCRIPTION
E21	0674-08	EXTERNAL OUTPUT TERMINAL
E40	7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)
E40	7142-08	PIN CONNECTOR 1P(LINE VOLTAGE)
J13	0518-08	FUSE CLIP;FOR 6X30MM
J73	0326-08	PCB (UNMOUNTED)
R92	0150-05	JUMPING RES. ZERO OHM(10MM)
R92	1061-05	JUMPING RES. ZERO OHM (5MM)
C1	C90-3023-08	CAP. ELECTRO 470 105°C 35V
C2	C92M1H102K	CAP. MYLAR 1000P 10% 50V
C3	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C4	C92M1H1472K	CAP. MYLAR 4700P 10% 50V
C5	C92M1H103K	CAP. MYLAR 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V
C9	NO USE	
C10	C90-3039-08	CAP. ELECTRO 330 105°C 160V
C11	CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V
C22	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C26	C90-4504-08	CAP. ELECTRO 10 100V
C27	NO USE	
C28	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C29	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C32	CF93AN1J1ROK	CAP. POLYESTER 1P 10% 63V
C101	C91-2588-08	CAP. CERAMIC 0.1 10% 630V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7344-08	PIN CONNECTOR 3P
CN3	NO USE	
CN4	E40-7126-08	PIN CONNECTOR 2P
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6	E40-7219-08	PIN CONNECTOR 3P
CN7	E40-7229-08	PIN CONNECTOR 4P
CN11	E40-7332-08	PIN CONNECTOR 4P
CN12	E40-7333-08	PIN CONNECTOR 2P
CN13	E40-7333-08	PIN CONNECTOR 2P
CN18	E40-7440-08	CONNECTOR
CN23	E40-3240-05	PIN CONNECTOR 5P
CN24	E40-7333-08	PIN CONNECTOR 2P
C01	C90-3038-08	CAP. ELECTRO 1 105°C 100V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3048-08	CAP. ELECTRO 100 105°C 100V
D1	IB4B42	DIODE, STACK
D2	ERA15-01	DIODE
D3	ISS270A	DIODE
D4	ISS270A	DIODE
D5	ISS270A	DIODE
D6	ISS270A	DIODE
D7	ISS270A	DIODE
D8	NO USE	
D9	DS5B60	DIODE, STACK
D10	ERA15-01	DIODE
D14	ISS270A	DIODE
D15	ISS270A	DIODE
D16	ISS270A	DIODE
D28	ISS270A	DIODE
D33	ERA15-01	DIODE
D34	ISS270A	DIODE
D37	ERA15-01	DIODE
D38	ISS270A	DIODE
D39	ERA15-01	DIODE
D01	ERA15-01	DIODE
IC1	UPC151C	IC, OP AMP
IC2	UPC151C	IC, OP AMP
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC9	MA178L12A	IC, TERMINAL FIXED VOLTAGE REG.
LED1	LN222RP	LED:RED
LED2	LN322GP	LED:GREEN
LEDO	LN222RP	LED:RED
LEDO1	LN222RP	LED:RED

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
Q1	2SC1815(GR)	TR. SI, NPN	RY4	S76-0630-08	RELAY
Q2	2SC1815(GR)	TR. SI, NPN	SW1	S68-0631-08	MASTER/SLAVE SWITCH
Q3	2SC1815(GR)	TR. SI, NPN	SW2	S31-1512-08	MASTER/SLAVE SWITCH
Q4	2SC1815(GR)	TR. SI, NPN	VR1	R12-1564-08	RES. SEMI FIXED 1KB
Q5	2SC1815(GR)	TR. SI, NPN	VR2	R12-5547-08	RES. SEMI FIXED 100KB
Q6	2SD1148(O)	TR. SI, NPN	VR3	R12-0597-08	RES. SEMI FIXED 100
Q7	2SC2238(Y)	TR. SI, NPN	ZD1	H7SGA	DIODE, ZENER 5.75V
Q8	2SC3421(Y)	TR. SI, NPN			
Q9	2SC1815(GR)	TR. SI, NPN			
Q10	2SC1815(GR)	TR. SI, NPN			
Q11	2SD1148(O)	TR. SI, NPN			
Q15	2SC1815(GR)	TR. SI, NPN			
Q16	NO USE				
Q17	DTA143EF	TR. DIGITAL			
Q11A	2SD1148(O)	TR. SI, NPN			
Q11B	2SD1148(O)	TR. SI, NPN			
Q11C	2SD1148(O)	TR. SI, NPN			
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R2	RD14DB2H302J	RES. CARBON 3K 5% 1/2W			
R3	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R4	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R5	RD14BB2C303J	RES. CARBON 30K 5% 1/6W			
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R7	RNI4BK2C1001F	RES. METAL FILM 1K 1% 1/6W			
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R10	RD14BB2C243J	RES. CARBON 24K 5% 1/6W			
R11	RD14BB2C6513J	RES. CARBON 51K 5% 1/6W			
R12	NO USE				
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W			
R15	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W			
R17	NO USE				
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R21	RNI4BK2C3903F	RES. METAL FILM 390K 1% 1/6W			
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R23	RNI4BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R24	RNI4BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R29	RS14GB3D123J	RES. METAL FILM 12K 5% 2W			
R30	RS14GB3A1R5J	RES. METAL FILM 1.5 5% 1W			
R31	NO USE				
R32	RS14GB3A1R5J	RES. METAL FILM 1.5 5% 1W			
R33	NO USE				
R34	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R35	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R36	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R37	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R38	RD14BB2C753J	RES. CARBON 75K 5% 1/6W			
R39	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R40	RNI4BK2C51R0F	RES. METAL FILM 51.0 1% 1/6W			
R43	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R45	RD14DB2H303J	RES. CARBON 30K 5% 1/2W			
R67	RS14GB3DR22J	RES. METAL FILM 0.22 5% 2W			
R74	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R75	RD14DB2H303J	RES. CARBON 30K 5% 1/2W			
R76	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R77	NO USE				
R78	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R79	RD14DB2H102J	RES. CARBON 1K 5% 1/2W			
R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W			
R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W			
R89	NO USE				
R90	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R92	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R93	RD14BB2C205J	RES. CARBON 2M 5% 1/6W			
R94	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R95	NO USE				
R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W			
R32A	RS14GB3A1R5J	RES. METAL FILM 1.5 5% 1W			
R32B	RS14GB3A1R5J	RES. METAL FILM 1.5 5% 1W			
R32C	RS14GB3A1R5J	RES. METAL FILM 1.5 5% 1W			
R01	RNI4BK2C1003F	RES. METAL FILM 100K 1% 1/6W			
RY1	S7G-0604-08	RELAY			
RY2	S7G-0604-				

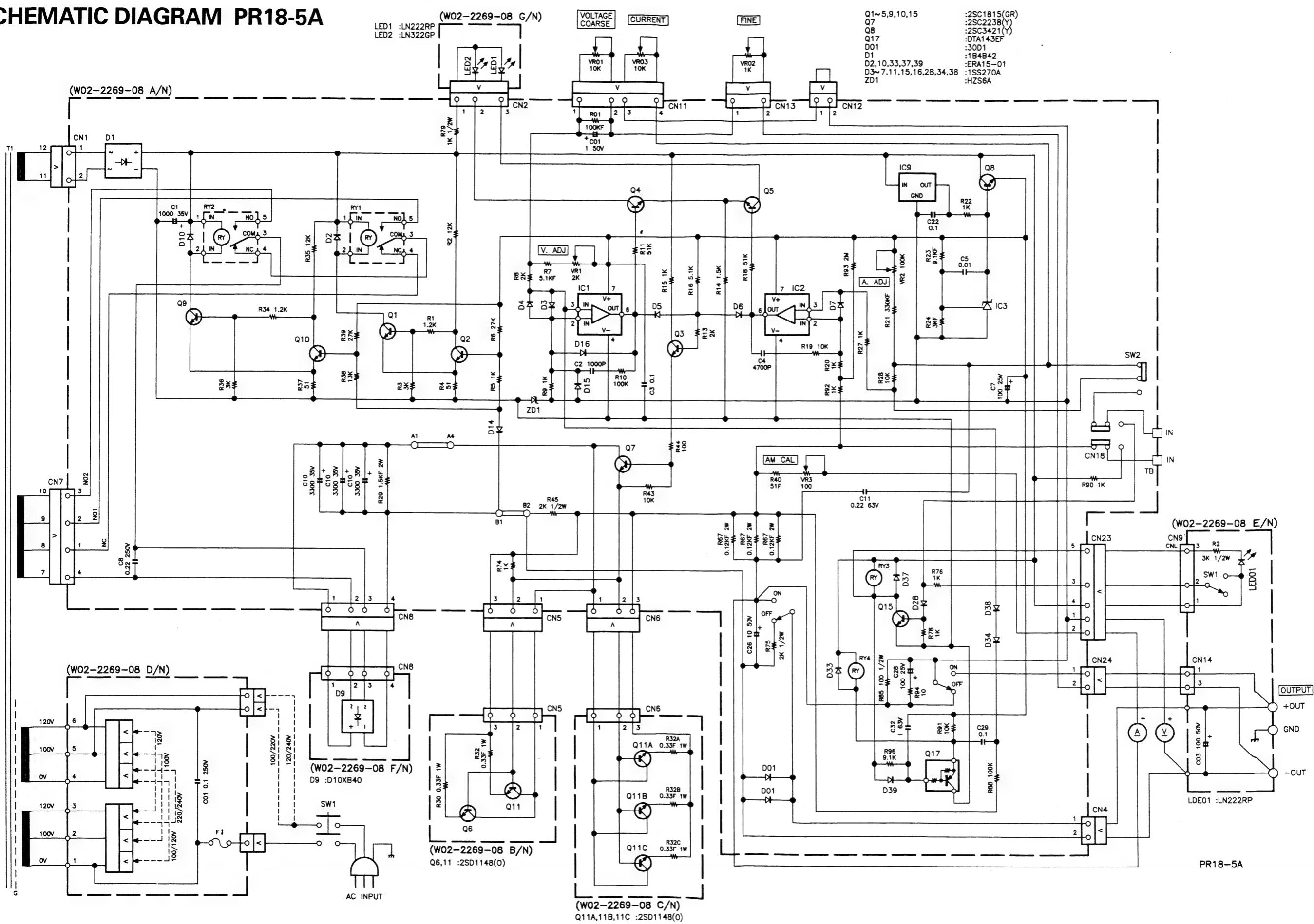
# SCHEMATIC DIAGRAM PR18-1.2A



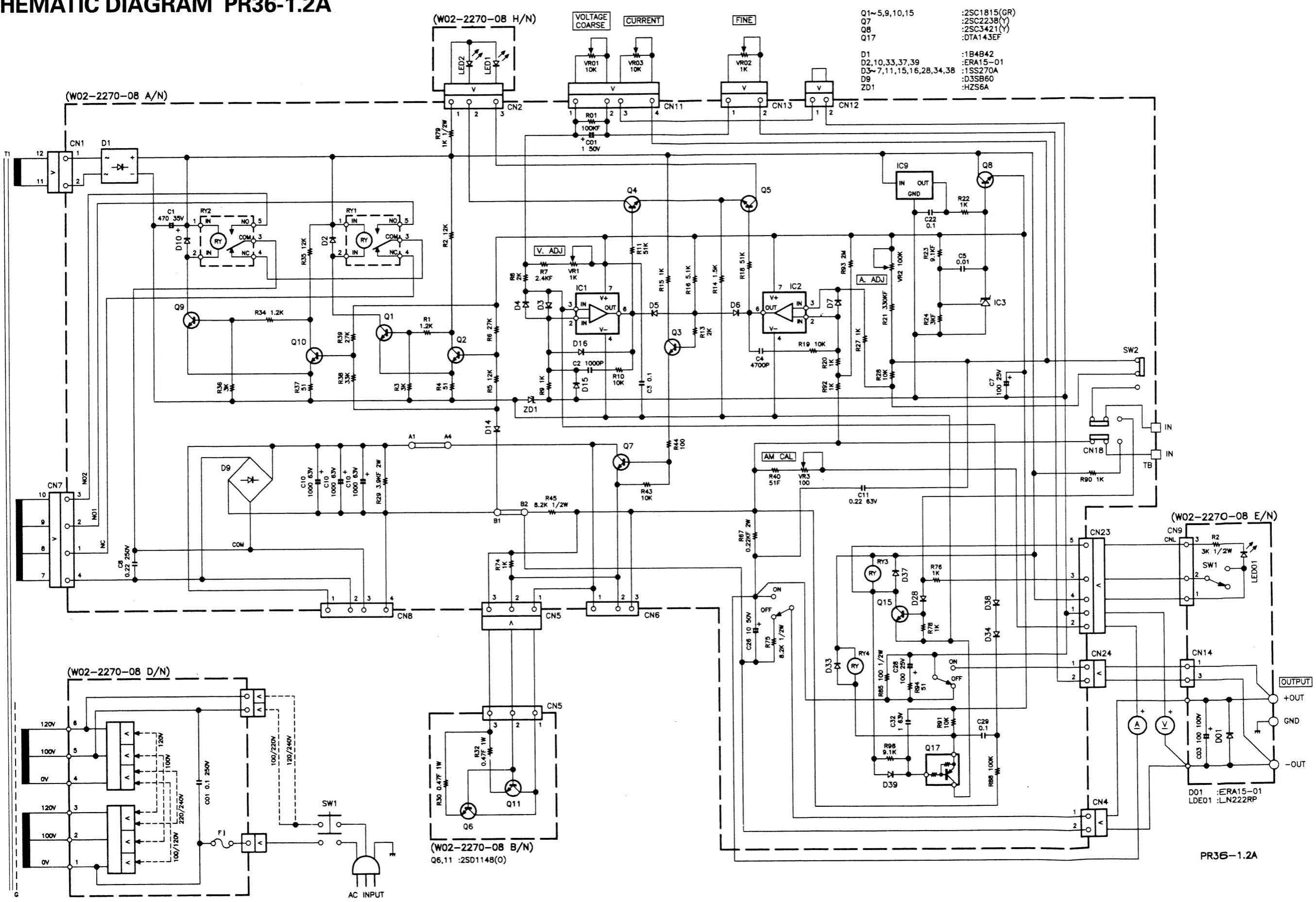
# SCHEMATIC DIAGRAM PR18-3A



# SCHEMATIC DIAGRAM PR18-5A

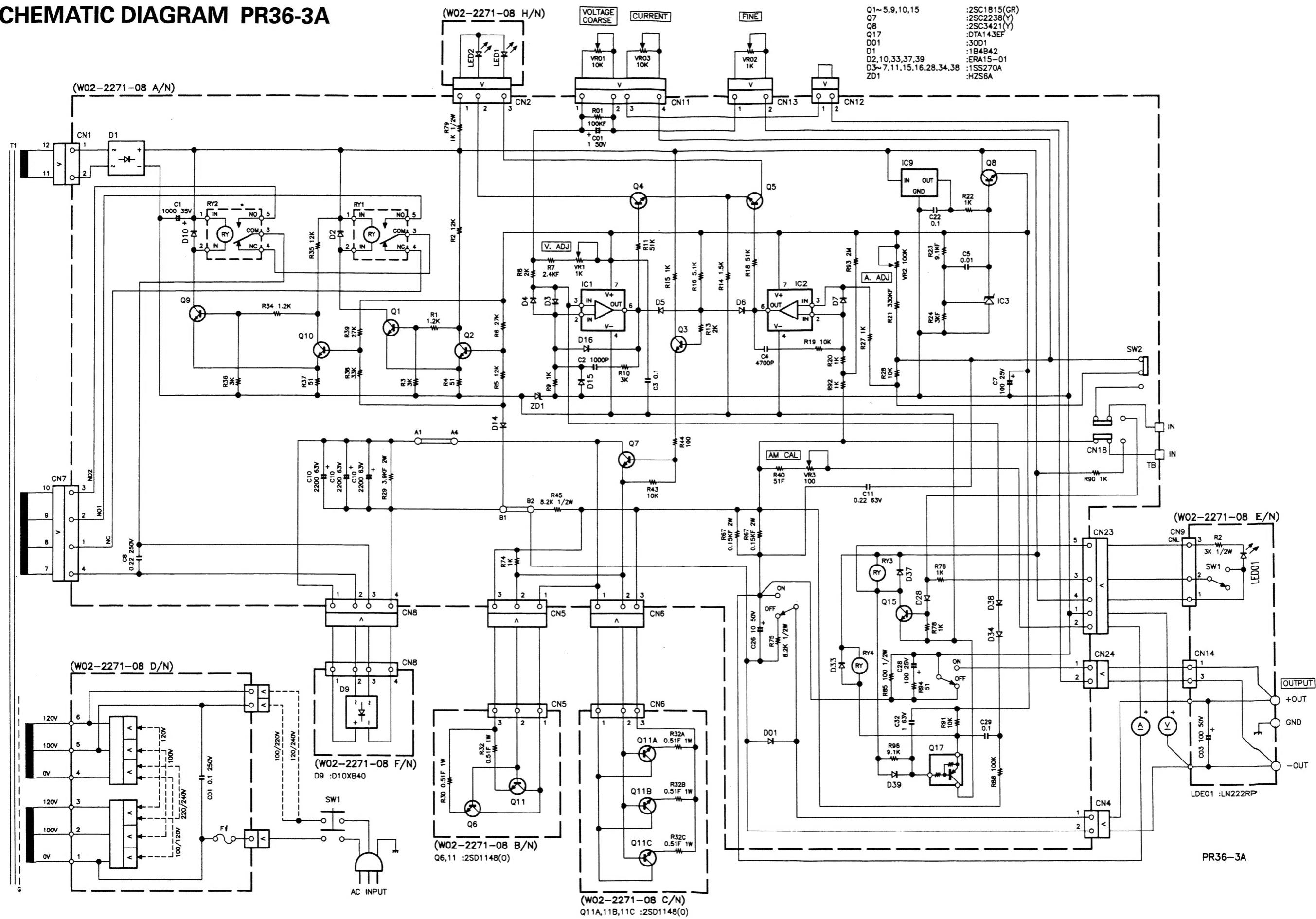


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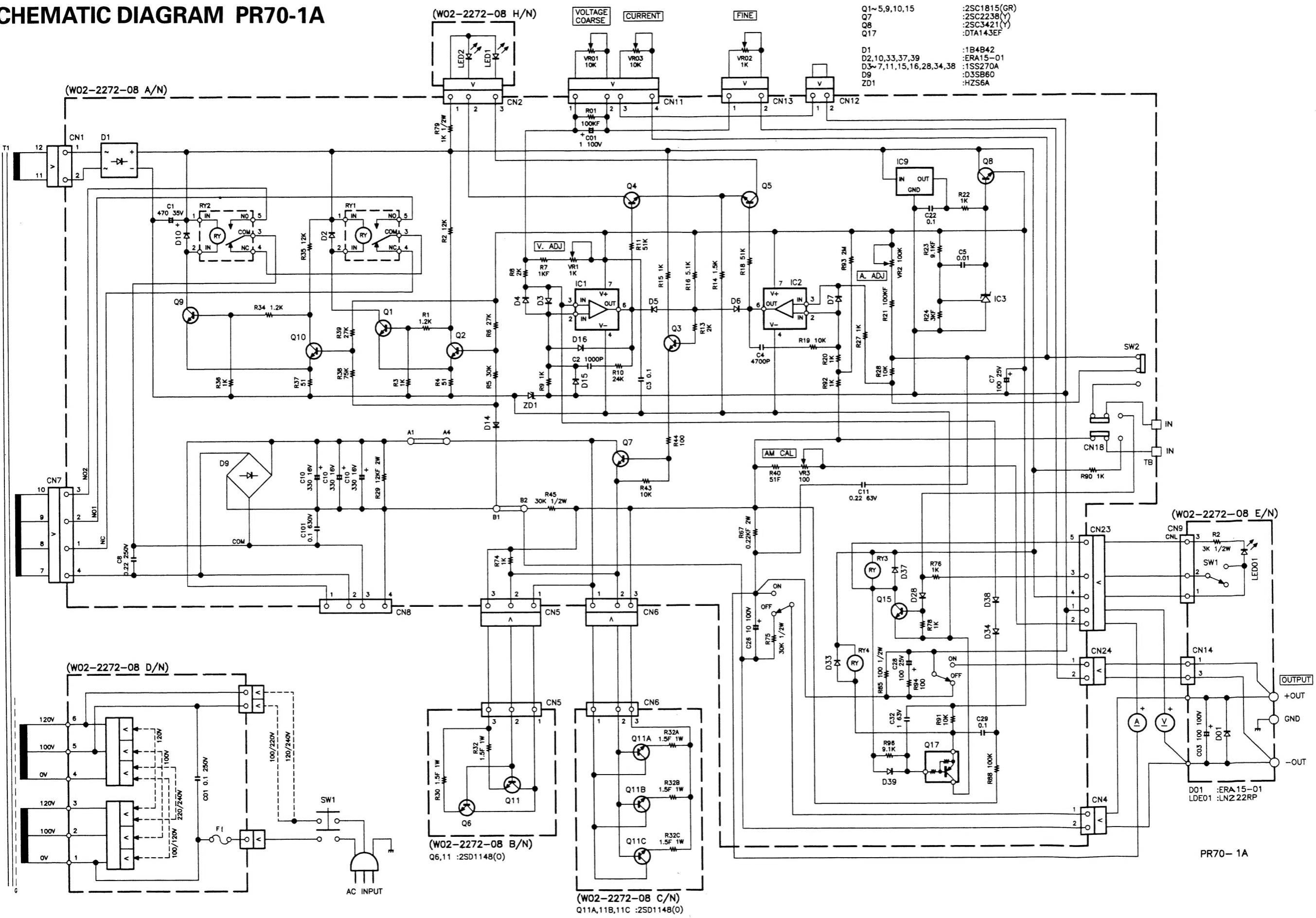


PR36-1.2A

# SCHEMATIC DIAGRAM PR36-3A



# SCHEMATIC DIAGRAM PR70-1A



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